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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/602,113	06/23/2003	Eugene F. Young	4847	2441

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APPLIED BIOSYSTEMS
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EXAMINER

HYUN, PAUL SANG HWA

ART UNIT	PAPER NUMBER
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1743

DATE MAILED: 05/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/602,113

Applicant(s)

YOUNG ET AL.

Examiner

Paul S. Hyun

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) 1-18 and 27-37 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19-26 and 38-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>6/23/03, 3/24/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

REMARKS

Claims 1-46 are currently pending. In response to a written restriction mailed on 04/14/06, Applicants elected the prosecution of claims 19-26 without traverse. Applicants also added dependent claims 38-46 that are dependent on the elected claims. Claims 1-18 and 27-37 are withdrawn from further consideration by the examiner for being drawn to a non-elected invention.

Claim Objections

Claim 19 is objected to because of the following informalities:

Claim 19 recites the limitation "a second member defining a plurality of sample chambers between the first and the second member". It is suggested that the limitation be reworded to "a second member, wherein a plurality of sample chambers are defined between the first member and the second member". The claim as presented suggests that the second member alone defines the sample chambers.

Claim 20 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim 20 does not further limit claim 19 because the term "lens" inherently comprises a round surface according to its definition.

Claim 39 is objected to because of the following informalities:

The limitation "Frensel" should be changed to "Fresnel".

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 22 and 40-45 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 22 recites the limitation "angled projections to the flat bottom surface". It is unclear how a flat surface can comprise projections.

It is unclear whether the "elongate portion" recited in claims 40-45 is made out of the same material as the lens. The claims recite that the elongate portion is a part of the lens yet, claim 43 recites that the "lens is positioned in an elongate portion", which suggests that the elongate portion is a separate entity. Moreover, claim 44 recites that the "elongate portion" is hollow, which also suggests that the elongate portion is not made from the same material as the lens.

Claim 45 recites the limitation "the hollow elongate portion" in line 2 of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 19-21, 23, 25, 26 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Henry (US 4,956,150) in view of Sha et al. (US 2003/0235519 A1).

Henry discloses a stick of microtiter wells (see Fig. 6). The stick comprises a substrate 25 having a plurality of sample chambers 36 formed thereon. Each well is in the form of a truncated hemisphere, the bottom of which comprises a plano-concave lens surface (26') for focusing light that is transmitted through the well, wherein the bottom of the lens is planar and the top of the lens is concave.

The Henry reference differs from the claimed invention in that the wells of the microtiter stick disclosed by Henry are open and therefore they are not chambers.

Moreover, the microtiter stick disclosed by Henry comprises only a single row of wells, *2 dimensional* not a matrix of wells.

^

In regards to the first member for forming the sample chambers, Sha et al. disclose a flat cover adapted to seal the wells of a microtiter plate (see Fig. 4B). The reference discloses that the cover can be made from a transparent polypropylene (see [0027]).

In light of the teachings of Sha et al., it would have been obvious to one of ordinary skill in the art to provide a transparent polypropylene cover to the wells of the microtiter stick disclosed by Henry in order to prevent sample contamination.

In regards to providing a matrix of wells, microtiter plates comprising a matrix of wells, such as 9x12 or 16x24 matrix configuration, are well-known in the art. It would have been obvious to one of ordinary skill in the art to provide more wells to the

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microtiter stick such that the wells form a matrix so that it can accommodate more samples.

Claims 22 and 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Henry in view of Sha et al. as applied to claims 19 and 21, and further in view of Ohta et al. (US 5,169,601).

Henry in view of Sha et al. disclose the microcard of claims 19 and 21, but the references do not disclose that the lenses disposed in the wells are convex lenses.

Ohta et al. disclose an optical system that focuses light transmitted through wells of a microtiter plate onto a CCD sensor. The system comprises a light source for transmitting light through a sample stored in the wells of the microtiter plate, and a convex lens that converges the transmitted light onto a CCD sensor that is positioned one focal length away from the convex lens (see Fig. 12 and lines 11-41, col. 9).

In light of the teachings of Ohta et al., it would have been obvious to one of ordinary skill in the art to replace the lens disclosed by Henry with a convex lens since convex lenses are specifically adapted to focus light at a distance of one focal length away from the lens.

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Henry in view of Sha et al. as applied to claim 23, and further in view of Warhurst et al. (US 6,896,848 B1).

Henry in view of Sha et al. disclose the microcard of claim 23, but the references do not disclose a metallic member.

Warhurst et al. disclose a flat cover adapted to seal the wells of a microtiter plate (see Fig. 1). The reference discloses that the cover can be made from a metal (see lines 65-67, col. 2).

In light of the teachings of Warhurst et al., it would have been obvious to one of ordinary skill in the art to provide a metallic cover to the wells of the microtiter stick disclosed by Henry in order to prevent sample contamination while the samples are not being analyzed.

Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Henry in view of Sha et al. as applied to claim 19, and further in view of Masahiko (EP Application 0065409 A2).

Henry in view of Sha et al. disclose the microcard of claim 19, but the references do not disclose that the lenses disposed in the wells are Fresnel lenses.

Masahiko discloses an optical system adapted for analyzing agglutination patterns of samples disposed in a microplate. The system comprises a light source 3 for projecting light onto the samples and a Fresnel lens 6 for focusing the light onto the wells of the microtiter plate (see Fig. 1 and pages 7-8).

In light of the teachings of Masahiko, it would have been obvious to one of ordinary skill in the art to replace the lens disclosed by Henry with a Fresnel lens since Fresnel lenses are specifically adapted to focus light.

Claims 40-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Henry in view of Sha et al. as applied to claim 19, and further in view of Hijikata (US 3,932,132).

Henry in view of Sha et al. disclose the microcard of claim 19, but the references do not disclose an elongate portion.

Hijikata discloses an optical system adapted to detect particular analytes in a fluid. The system comprises a transparent reagent carrier 11 on which an absorptive reagent is disposed, a lamp 12a for projecting light onto the reagent, and a tubular light guide 12c that guides the light emitted by the lamp to the reagent carrier (see Fig. 2).

In light of the teachings of Hijikata, it would have been obvious to one of ordinary skill in the art to provide the modified microcard of Henry with a light guide so that the light projected in to the wells of the microtiter stick is properly focused at a desired point.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul S. Hyun whose telephone number is (571)-272-8559. The examiner can normally be reached on Monday-Friday 8AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on (571)-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PSH
5/17/06


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